

Abstract of th Disclosur

A storage system and method for prestaging data in a cache based on relative changes in the frequency of data access and relative changes in the effectiveness of previous prestage operations. The relative changes in the frequency of data access are determined by storing statistics of data access to all regions in the system and comparing recent access statistics to the stored data.

5 Access statistics include data location, I/O size and access frequency. The relative changes in the effectiveness of previous prestage operations are detected by recording the number of previous prestaging operations for a region, recording the

10 number of I/O requests for data that has been prestaged, and dividing the number of I/O requests for previously prestaged data in a region during a time period by the number of previous prestage operations for the region during the same time.